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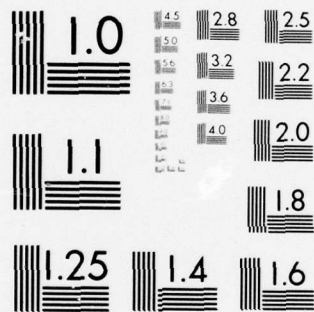
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STUDENT RESEARCH REPORT

MAJ. RICHARD A BUCKNER
TACTICS AND TRAINING OF THE FIRING
BATTERY IN THE SOVIET FIELD (TUBE)
ARTILLERY

GARMISCH, GERMANY

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TACTICS AND TRAINING OF THE FIRING BATTERY
IN THE SOVIET FIELD (TUBE) ARTILLERY

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Major Richard A. Buckner

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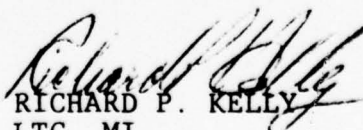
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F O R E W O R D

This research project represents fulfillment of a student requirement for successful completion of the overseas phase of training of the Department of the Army's Foreign Area Officer Program (Russian).

Only unclassified sources are used in producing the research paper. The opinions, value judgments and conclusions expressed are those of the author and in no way reflect official policy of the United States Government; Department of Defense; Department of the Army; Department of the Army, Office of the Assistant Chief of Staff of Intelligence; or the United States Army Institute for Advanced Russian and East European Studies.

Interested readers are invited to send their comments to the Commander of the Institute.


RICHARD P. KELLY
LTC, MI
Commander

SUMMARY

This paper examines some of the tactics and training techniques currently employed by the Soviet field artillery (tube) at the battery level. All information presented has been extracted from Soviet military sources and has been compiled with the intent to give the US field artilleryman a basic understanding of the tactics and training techniques utilized by his Soviet counterpart. Having focused on several of the more obvious conceptual differences at the battery level, it is intended that the information presented will better equip those reading the study to evaluate Soviet small unit field artillery operations, tactics and training.

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INTRODUCTION

Historical accounts of the major Soviet military campaigns of World War II clearly indicate a strong reliance on the fire power supplied by Soviet field artillery. Time and again, the field artillery was called upon to deliver the initial blow which eventually gave Soviet ground forces the impetus for final victory. In November of 1942, during the Battle of Stalingrad, the Soviet main attack alone was supported by 13,500 artillery pieces and mortars.¹ The artillery preparations in support of the initial ground attacks were long in duration and devastating. This battle is an excellent illustration of the Soviet ground commander's thorough understanding of the decisive capabilities of this combat arm. Victories of this nature not only forced the combined arms commander to rely heavily upon his organic artillery support, but also forced him to master the art of massing artillery fires.

The effective utilization of such an awesome tactic requires that an army possess quality weaponry and highly trained artillerymen. It is evident from an extensive review of Soviet military journals that the Red Army artillery has the hardware, the manpower, and the training techniques essential in maintaining a high level of preparedness. In short, they possess the necessary prerequisites required to make their artillery

a decisive combat arm. The following discussion will concern itself with some of the battery training techniques and tactics which have been responsible for this high degree of proficiency currently observed within the Soviet field (tube) artillery.

COMMAND OBSERVATION POINT (COP)

Battery firing procedures of Soviet tube artillery differ significantly from those procedures followed by the tube artillery of the United States. Probably the most significant difference can be found in the location of the battery commander. During the conduct of fire, the battery commander (rank of Captain or Senior Lieutenant) is positioned in a Command Observation Point (COP) several kilometers to the front of the firing battery.* From this observation point he is expected to conduct target observation, assist in the computation of fire missions, maintain contact with the ground forces his battery supports and finally, control the actions of his firing battery. The Soviets place a great deal of emphasis on the experience of the senior officer and his ability to make the most tactically sound decisions with respect to target identification, target acquisition and target engagement.

* In a like manner the field artillery battalion commander (Major) occupies the Battalion Observation Point.

While executing his duties as battery commander/forward observer/computer, he is assisted by several individuals assigned to the Reconnaissance Section and Control Platoon. The table of organization calls for seven men (battery commander included) to operate within the confines of the COP. Diagram No. 1 shows the detailed positioning of the individuals and instruments located in the COP.² All diagrams of the COP extracted from Soviet source material indicate that the general layout of all COP's are identical. The positioning of certain personnel may vary, however, in accordance with the desires of the battery commander or the battalion commander.



Proposed Positions

⊙ КВ	Battery CO	⚙	Aiming Circle
⊙ КВУ	Cmdr Control Plt	⚙	Range Finder (inst)
⊙ КОВ	Cmdr Recon Sec	⚙	Radio Station
⊙ Р	Observer	⌚	CO's Field Table
⊙ А	Range Finder	⌚	Fire Direction Inst
⊙ С	Computer		
⊙ РТ	RTO		

Diagram No. 1

Soviet doctrine regarding the occupation of the COP is similar to the US Army Field Artillery's doctrine relative to the forward observer's occupation of the Battery Observation Post. After a thorough study of the terrain in the vicinity of the proposed COP, the Soviet battery commander is trained to select a COP with the following characteristics:

- a good view of the enemy disposition;
- camouflaged from ground and air observation;
- has a concealed approach.

Some of the specific areas recommended include high ground, slopes of hills, the edges of wooded areas, thickets. In certain instances lone observers can be located in trees and in garretts of buildings found in built up areas. Efforts should be made not to disturb the natural camouflage existing in the area selected. Soviet doctrine specifies that it is forbidden to select a COP on the crest of a hill or in the proximity of terrain features which are easily recognizable from the ground or air. In addition, it is recommended that the COP be occupied during the night. Daytime occupation is recommended only when visibility is limited.³

FIRING BATTERY TECHNIQUES

Firing battery operations also have many dissimilarities when comparing Soviet doctrine with that

of the United States. Their methods of fire direction, gun supervision and gun positioning are all different. Probably the only apparent similarity between the two firing batteries is that there are six guns in the table of organization, even though the Soviet batteries are subsequently broken down into two gun platoons containing three guns each. The officer in charge of the firing battery operations is the most senior lieutenant assigned to the firing battery. He is assisted by two junior officers who are gun platoon commanders.

The battery firing position is selected by the battery commander only after the artillery battalion commander has given his final approval. As in the selection of an observation point, there are certain factors that must be considered in the selection of a concealed or open firing position. Wooded areas, foothills and thickets are described as the most desirable areas for concealed gun positions. If a concealed position is desired in the vicinity of a heavily populated area, it is recommended that gun positions be located in orchards or in garden plots. In all cases the entrance to and exit from the gun position should be concealed as much as possible. During night firing, concealment of the muzzle flashes must be afforded by the gun position.

For an unconcealed or open gun position the controlling selection factor is the availability of sufficient range to allow the battery to successfully accomplish a direct fire mission at the weapon's maximum effective direct fire range. The fire position should also afford cover for the gun crews and their ammunition. In addition, the position must have interlocking fires with neighboring weapons. According to Soviet doctrine, adequate unconcealed firing positions could be found near fences, thickets and roads or in ditches.⁴

The configuration of the guns within the firing position varies greatly with that of the gun positioning in the US field artillery. Soviet military journals depict the tactical deployment of the guns located within the battery firing position in a linear formation. The 1972 edition of the Artilleriiskii-Strelkovyi Bloknot Ofitsera Nazemnoi Artillerii (The Artillery-Firing Notebook for the Field Artillery Officer)⁵ reinforces this observation. Diagrams No. 2 and No. 3, extracted from this notebook, show the Soviet's reliance on linear gun positioning. In the notebook the officer is required to fill in the blank spaces to indicate the distance between guns and the distance of the battery front. As can be seen, there is no allowance for displacement in depth. In Diagram No. 3

special corrections have been applied to each piece to achieve the desired results in the target area.

ИНТЕРВАЛ МЕЖДУ ОРУДИЯМИ И ФРОНТ БАТАРЕИ
(Interval Between Weapons and Battery Front)

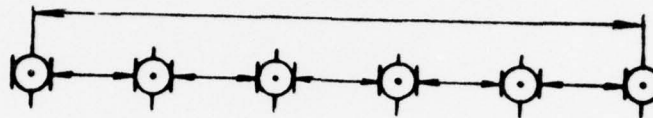


Diagram No. 2

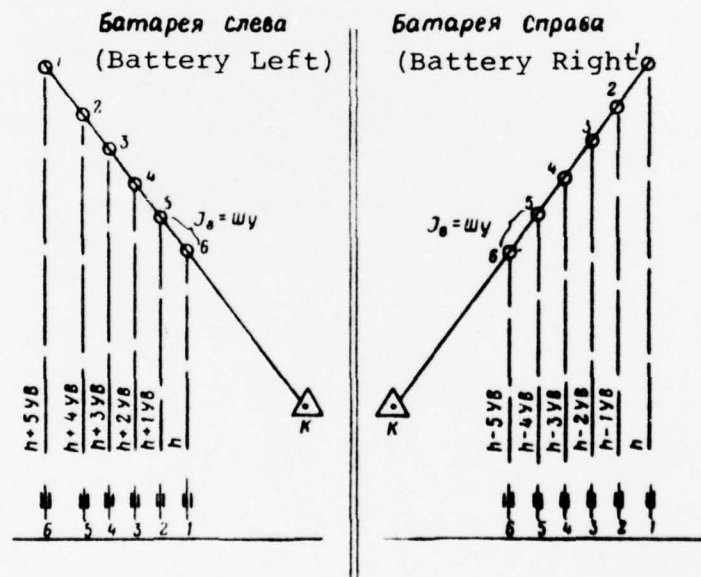


Diagram No. 3

In one of the more recent issues of Voennyi Vestnik (Military Herald)⁶ variations to this time honored formation were depicted. Although these new formations

have found their way into the Soviet military journals, they are still far from being accepted throughout the Soviet Artillery. The authors of the article are convinced that the linear battery formation presents too lucrative a target for air attacks from the flank. They contend that the new formations force enemy aircraft to attack battery firing positions not as one linear target but as a group of separate targets. Diagram No. 4 not only shows their new ideas concerning battery displacement in depth but also indicates the relative positions of the senior battery officer, the two gun platoon commanders and the desired positioning of the base piece. It is apparent from these diagrams that there has been no attempt to make the base piece coincide with the battery center.

THE SOVIET FIRE MISSION

The command "k boiu" (to battle) when received by the Soviet firing battery is acted upon with the same sense of urgency found in the US firing battery upon their receipt of the command "Fire Mission". The individual steps to bring fire on the target vary significantly. As stated earlier, the battery commander in the COP decides what targets of opportunity will be taken under fire. He also makes the decisions on how to attack those targets relayed to him by the

infantry and armor forces he is supporting. In the Soviet system, there are four individuals responsible for the preparation of firing data - the battery commander, the commander of the control platoon, the computer located in the COP and the computer located in the firing position. The Soviet experience factor shows that the computer positioned in the firing position is usually the first to solve the gunnery problem. The senior officer in the firing battery immediately relays the data to the two gun platoons. The data is then placed on the six guns in preparation to fire. The battery commander and the computer in the COP are also required to solve the gunnery problem in order to provide a separate check on the data supplied by the firing battery computer. If, for

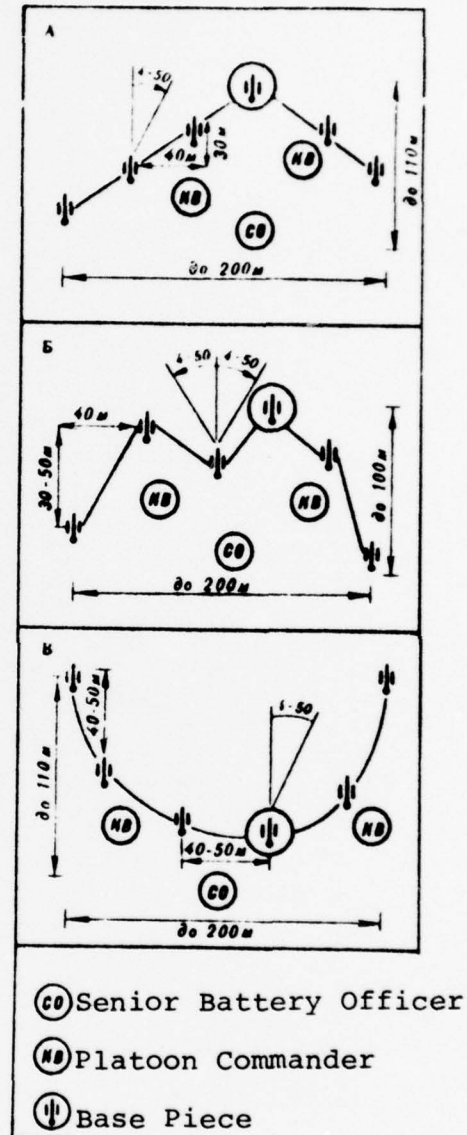


Diagram No. 4

some reason, the data from the COP is ready before that of the firing position, the battery commander will transmit his data directly to the firing position. If a discrepancy exists between the firing data supplied by the two computers, the battery commander will decide which is the more accurate. This system demands that the battery commander be as proficient in computing the various gunnery problems as the computers themselves. The Soviets feel that the computation of three independent gunnery problems significantly reduces the chances for a large error. Aside from the reduction of errors, this technique insures that a fire direction system is readily available in the event that either the fire direction capability of the COP or the firing position is neutralized.

TRAINING OF THE FIELD ARTILLERY BATTERY - GENERAL

The Commanders of the Soviet Artillery have called for innovative steps to be taken in order to insure that peacetime training produces the most efficient, highly motivated field artillerymen in the world. The methodology utilized by the various military districts throughout the Soviet Union to obtain this end result is not considered to be standardized. The types of training and the methodology explained

in the following section might be in effect in one of the military districts, but might not necessarily be found throughout Soviet field artillery units. There are, however, standardized norms which must be achieved in order to become qualified in a specified skill or position.

In one military district, battery commanders are required to develop brief but specific weekly training schedules. When the training schedules are approved by the battalion commander, they are posted on the bulletin board along with a pad of paper and a pencil. The members of the battery are encouraged to jot down notes so they can adequately prepare themselves for that week's training.⁷ Soviet military journals explain in great detail the many types of training currently being accomplished throughout the Soviet Union. The types of training discussed range from the adjustment of artillery fire on mock-up indoor ranges to an exercise known to US artillerymen as "cannoneers hop".

FIRING BATTERY TRAINING - INDIVIDUAL/CREW

In many instances Soviet journals discuss at length the employment of a "county fair" type training experience. The instruction of several subjects is accomplished by breaking the firing battery into

small groups and having those groups rotate from station to station. In one instance, the two firing platoons were broken down into six separate groups and were instructed on different phases of firing battery related subjects. During the four hour instruction period, the six groups were required to rotate to a different station every 20-25 minutes. The platoons were broken down as follows:

Group I - Gun Commanders and Gunners: individual instruction conducted by the senior firing battery officer to increase gunner knowledge and proficiency.

Group II - Fuse Setters and Charge Cutters: Instruction on the cutting of charges and the setting of fuses.

Group III - Instruction on the handling of special firing battery equipment.

Group IV - Instruction on the mechanical construction of artillery ammunition.

Group V - Instruction geared for Assistant Gunners indicating the proper method to prepare the weapon for firing.

Group VI - Instruction on the wearing and use of protective clothing in a nuclear, biological or chemical environment.⁸

The Soviet attempt to have all members of the firing battery completely familiar with all positions

in the gun crew is realized through their version of "cannoneers hop". The basic reason for this type of exercise is their desire to have each crew member capable of replacing one another in the event that casualties are sustained within the section. During the first two or three training sessions, the "young soldier" is shown in detail the responsibilities of every crew member. After these initial sessions the gun section chief assigns him to a specific duty within the gun crew. At this time the practical training begins. The newest members of the crew work together in a training section to learn several of the tasks associated with the various crew positions - cutting of the charge, assembly of the shell, the loading of the round, etc. After they become proficient in these tasks they are then integrated into their regular gun crews for additional training. While processing practice fire missions, personnel are continually made aware of the requirements for accuracy and speed of operation. In the same vein they are continually reminded of the consequences that would result in the slightest error in deflection or elevation. Only after they have mastered their specific duties within their regular gun section for all types of fire missions, can they attempt the changing of positions that occurs in "cannoneers

hop". Appendix A gives the specific duties and the commands employed by a Soviet artillery gun crew in preparation for firing.

The artillery gunner, considered to be one of the most responsible jobs in the gun crew, is given more attention by the battery commander and the gun platoon commanders during training. Independent training programs are set up for gunners and those soldiers desiring to become gunners. Under the tutelage of the gun commander and the regular gunner, future gunners work on training mock-ups of the gun sights until they are completely proficient in all aspects of firing battery gunnery. Only at this time are they allowed to practice on the weapon itself.

GUN PLATOON TRAINING

After the gun crews have mastered the various types of fire missions (direct fire, fuse time, illumination, high angle, etc.), they are then required to integrate this gunnery training with the tactical training they have already received. **In the first stages** of training, the gun crews act independently of their platoons. A tactical situation is given to the gun commander and his crew is expected to perform according to the norms that have been established by higher headquarters. The problem is conducted in a tactical setting and all phases of training are

exercised, critiqued and graded. Prior to the actual test an equipment readiness check is performed in the battery motor park. The initial segment of the exercise is concerned with the ability of the section to move the gun from the motor park to its first tactical firing position. On the march, the gun crew is tested on its knowledge of the various flag signals that control all artillery convoy movements. While in convoy, each vehicle in the battery is required to have a member of the section, in a visible location, prepared to relay (by hand flag signals) messages from the senior battery officer located in one of the lead vehicles. Commands such as "Increase Distance", "Enemy tanks on the right/left", "Air Attack", "Stop" or "Commander's meeting" are relayed from vehicle to vehicle. The exercise continues to test combat proficiency in the following firing battery techniques:

- mounting and dismounting of the prime mover
- crew actions during an air attack
- occupation of firing position/concealment of prime mover and camouflaging weapon
- crew procedures during a fire mission
- march order of gun
- deployment of gun from the march for emergency fire mission
- movement through contaminated areas (nuclear-biological-chemical)
- deployment of gun from the march for direct fire on tanks

A sample training plan explaining this type of tactical exercise in detail is found at Appendix B.

During this exercise, the gun section has no input from the observer section in the COP. All fire missions are canned and training rounds are used in lieu of live ammunition.¹¹

COMBINED TRAINING - FIRING BATTERY AND COP

Several methods are used to combine the actions of the COP with those of the firing position. One of the more innovative methods expressly designed for this purpose also contains an element of competition between the batteries in the field artillery battalion.¹² The training exercise is broken down into five stages. Total time for the exercise varies from 25-45 minutes. Battery officers are not allowed to participate in the exercise except in situations when the question of safety arises. Each battery of the battalion submits a team consisting of a reconnaissance section, computer, two radio telephone operators (RTO's), its best gun section and a prime mover driver. Battalion officers and specialists judge the accuracy of the data computed and the actions of the individuals and their sections.

In the first stage, the control platoons located 200 meters from their Command Observation Points receive the general azimuth of fire, the coordinates of their individual firing positions, meteorological

data and charge and ranges for crew corrections. Simultaneously, the gun section is positioned 300 meters behind their firing position along with their computer and the remaining RTO. In order to test the driver of the prime mover, the accumulator of the vehicle is removed and placed to the front of the vehicle. The judge at the COP starts the competition by ordering the Control Platoon to occupy the COP. The RTO at the COP transmits the required information to the computer. The computer is then required to prepare the fire direction instrument with computer corrections for three directions and three ranges.

The second phase starts with the umpire in the COP identifying three targets simultaneously. The observer has the RTO transmit the coordinates of the COP and the three targets to the firing position computer. The data for one of the targets must be computed while under a simulated gas attack. The computer at the COP and the firing position prepare the necessary firing data and relay it to the gun commander.

The third stage is initiated when the gun crew is told to occupy their firing position. A specialist from the gun section is required to detect and clear all anti-personnel mines within a 15 meter

radius of the proposed gun position. After this is accomplished, the fourth stage is started when the signal is given to occupy the position.

After the accumulator on the prime mover is fixed, the gun section then mounts the prime mover and moves toward the firing position. The final phase requires that the firing position be occupied and the gun and ammunition be prepared for firing. The umpire designates one of the three targets to be taken under fire. All phases of the exercise are evaluated with respect to speed and accuracy and penalty points are assessed for inaccuracies in firing data computations. The battery with the lowest score is the winner of the competition.

When all gun crews attain the desired degree of proficiency, the Soviet field artillery battery is then ready to undertake training as a unit. As one would expect, the battery is trained in all aspects of field artillery battery operations. The Soviet military journal, Voennyi Vestnik, frequently publishes articles relating the training techniques which are utilized to prepare the battery for combat operations. Training of the battery during night operations¹³, nuclear¹⁴ and biological¹⁵ attacks, airborne operations¹⁶ and the battery's mission during the meeting engagement¹⁷ are some of the areas that have

been examined at length. Before these special tactical situations can be introduced, however, the battery must be trained to carry out its regular mission of fire support under ordinary conditions. The Soviets simply state that "In the course of the training, the battery must be able to move, maneuver and execute fire missions."¹⁸

In most cases the battery has the option of independent tactical training or training concurrently with the motorized rifle or tank units as a part of the combined arms team. When the battery trains independently, the artillery battalion commander and his staff organize and lead the tactical training. When tactical training is concurrent with that of the combined arms forces, it is organized and led by the commander of the combined armed forces. In this instance, the actions of the artillery battery are normally controlled by the artillery battery commander or a senior artillery evaluator (umpire) with assistance from the battalion staff.

The tactical training of a Soviet field artillery battery is designed to test the knowledge of the individual artilleryman, and the effectiveness of the gun and fire direction sections. Special emphasis is placed on the commander's ability to coordinate all section activities during the execution of the battery's

fire support mission. The training situations formulated by higher headquarters are required to closely approximate the combat situations of modern warfare. The tempo of operation is such that commanders at all levels are required to make on-the-spot decisions to accomplish the tactical missions that are presented. The type problem and the frequency with which the tactical situation is changed depends entirely on the desires of the senior commander and the terrain restrictions imposed by the firing range or the training center at which training is being conducted.

The battery training exercise begins with the movement of the entire battery from the motor park to an assembly area.¹⁹ At this predesignated point readiness inspections are conducted throughout all the battery sections. Guns, prime movers, communications equipment, aiming circles, personal equipment, etc., undergo a thorough readiness inspection. At this time individual soldiers are questioned concerning their actions during emergency operations such as enemy air attack, tank attack or enemy use of nuclear, biological or chemical agents. Sufficient time is available to correct any of the equipment deficiencies found during the inspection.

Whenever the battery is on the march, the following tactical situations are presented:

- Attack from enemy aircraft.
- Crossing of terrain contaminated with radioactivity.
- Crossing of obstacles hindering road movement.
- Attack from enemy armored forces.
- Emergency fire mission necessitating the deployment of the battery from the march.

During the firing portion of the training exercise, the battery can be expected to show its proficiency in the following areas.

- The execution of fire missions during the following tactical situations:
 - During the attack
 - On the defense
 - During the defeat of moving enemy reserves
 - During the repulse of enemy tanks and infantry
 - During the counterattack of its supported forces
- The execution of special fire missions:
 - High angle
 - Missions at minimum and maximum ranges
 - Missions conducted during the hours of darkness and during limited visibility

In addition to the above requirements both the COP and the battery firing positions are displaced several times during the course of training. The distance and frequency of displacement will depend on the terrain available for maneuver within the

firing range and the desires of the training officer.

Throughout the course of the exercise the training officer and the umpire supply data to the battery commander and battery officers relative to the enemy situation, the movement of ground forces it is supporting and any other tactical information which might be of significance. Subsequent tactical situations/missions/problems are then formulated based on the decisions made by the battery officers. The training officer and the umpire will intervene in the decision making process when troop safety is endangered, or when the decision completely avoids the tactical situation at hand. The officers/umpires in charge of training normally assume the role of commander of the supported forces or the senior artillery commander. Their input to the tactical situation forces the battery commander to displace his unit for the continual support of the ground forces.

In training situations when the battery performs its mission as part of the combined arms team, the units' actions are carefully monitored by the training officers/umpires. If, for some reason, the battery fails to accomplish a designated mission, the umpires located with the supported ground troops are notified. In this manner, the movement of the ground units are detained until the battery's fire

support mission is accomplished.

At the termination of the exercise the training officer informs the battery commander of the time and place for the critique. In Soviet terminology, the critique is "a means of increasing the level of combat readiness of the battery." The enlisted men and sergeants are critiqued immediately after the termination of the exercise. During this portion of the critique, the training officer is required to comment on the following:

- Training goals for sergeants, enlisted men, specialists and the battery as a whole.
- The level of personnel readiness.
- The ability of personnel to execute their duties under field conditions.
- The degree of coordination of the crews, platoons and the entire battery.
- The most instructive and successful actions of the battery, platoons, crews and individual sergeants and soldiers.
- Note the existence of errors, what their consequences would have been in combat conditions and indicate the proper actions that should have been taken.

After the training officer delivers the critique, he is required to give a more detailed critique to the battery officers in the presence of all battalion officers. During the course of this critique he is

required to touch upon the following points:

- Reiteration of training goals and give a short summary of the training plan and the tactical situation in the various stages of training.
- Review the actions of the battery during training, noting its strengths, pointing out errors and covering the reasons for errors.
- Grade the execution of each fire mission, point out those errors causing decreased accuracy and errors resulting in the increase in time to fire.
- Comment on the knowledge of battery personnel, its degree of readiness to execute various missions under different combat conditions.

CONCLUSIONS

Although the training procedures discussed in this paper are not standardized throughout all Soviet military districts, they can be considered representative of the methodology employed by the vast majority of Soviet field artillery units. Soviet emphasis has been placed on the establishment of a well trained corps of artillerymen proficient in all aspects of their fire support mission. Soviet military sources have clearly described the extremely professional manner and environment in which the Soviet artilleryman lives and trains. Through an analysis of these sources it can be concluded that our counterpart in

the Soviet field artillery is highly motivated, is cross-trained in several positions, and has received the major portion of his training during field operations.

The expansion of the Soviet military industrial complex has made it imperative that we be able to assess its combat potential. Any assessment of the ground combat potential of this military complex would be incomplete without a basic understanding of the tactics and training currently being utilized by the Soviet field artillery. This brief overview of battery level tactics and training should stimulate a basic interest in the Soviet military threat and illustrate, to a certain degree, the combat readiness of one of the Soviet Union's most decisive combat arms.

APPENDIX A

COMMANDS OF THE GUN COMMANDER	ACTIONS AND REPORTS OF THE GUN CREW
"Crew to the Gun"	Take your position at the gun.
"Fragmentation, High Explosive"	Asst Gunner - "I open the breech block." Ammo Handler - "I prepare shell fragmentation high explosive."
"Fuse Fragmentation"	Fitter - "I receive the round from the Ammo Handler and install fuse fragmentation. I give the round to the Charge Man."
"Charge 3"	Gunner - "I set the indicator of the sight against the scale of the charge." Charge Man - "I cut charge three."
"Sight 115, Elevation Level 30-03, Deflection 1-84"	Gunner - "I set the gun data on the sighting devices and report, Sight 115, Eleva- tion Level 30-03 Deflection 1-84. I level the bubbles to the middle. Operating the turning mechanism of the gun and of panorama, lay the gun on the collimator (aim- ing point)." Asst Gunner - "Operating the elevating mechanism of the gun, I match the pointers and report 'ready'."
"One round fire"	Loader - "I check the setting on the fuse and call it out loud. I insert the round into the breech and operat- ing the rammer, I sharply ram the round to the edge of the leading groove in the rifled tube. I receive the charge (powder bags) from

	the Charge Man and place it in the breech."
	Asst Gunner - "I close the breech."
	Gunner - "I check the lay of the gun, match the pointers, grasp the lanyard and report 'ready'."
"Gun"	Gunner - "I fire the gun." Asst Gunner - "I open the breech block after firing, check the recoil mechanism of the tube and report 'recoil (such and such)'."
"STOP, Crew to the Rear of the Gun"	Occupy your place in a forma- tion behind the gun. ²⁰

APPENDIX B

"Confirmed"
Commander 1st Battery

(rank - signature)
(date)

PLAN

CONDUCT OF TACTICAL COMBAT TRAINING
WITH THE CREW OF THE 1ST
GUN²¹

Topic: "Operations of the Weapon (Gun, Howitzer, etc.)
in the Attack."

Training Goals: 1. To prepare the crew for well
coordinated action when operating as part of a battery.

2. To train the crew members in the
execution of their functional duties as members of a
gun crew during the attack.

Time: 6 hours (from 0800 to 1400).

Place: Training Field.

Method: Explanation with practical example and train-
ing aids.

Equipment Required: Standard armament and crew TOE,
training rounds-3, Hinged footbridge-2, Extra machine
gun barrel-1, mock tanks-2, instruments and tables
for special problems.

Initial Situation: Units of the enemy's 3d Motorized
Infantry Battalion (3MPB) having been defeated in
battles beyond "Gold", switch to the defense on the
western slopes of hill "Dlinnaia". In previous en-
counters the enemy has used nuclear and chemical wea-
pons. 1st Battery Firing Position - eastern outskirts
of "Gold". Battery supports the 1st Motorized Rifle
Company (1MSR) which is attacking in the direction of
hill "Dlinnaia", Kurgan. By 0900 displaces to Firing
Position in the vicinity of grove "Kruglaia".

I. Readiness Inspection of Crew and Movement of the Weapon to the Firing Position (0800-0900).

1. Readiness inspection in motor park (Point No. 1) of crew, weapon and prime mover.
2. Mission statement to gun crew concerning the displacement to grove "Kruglaia" (see initial situation)
3. The mounting of the prime mover by the gun crew.
4. Execution of gun direction signals on the march (Point No. 2).
5. Actions of the gun crew while under air attack (Point No. 3).

II. Occupation of a Concealed Firing Position, Preparation of the Weapon for Firing and Execution of Fire Missions (0900-1130).

1. Mission statement to the gun commander for the occupation of Firing Position (Point No. 4).
2. Occupation of the Firing Position, the process of concealment of the prime mover.
3. Execution of the command "to battle", laying the weapon in the firing position, determination of the minimum sight, preparation of ammunition and camouflage of the weapon.
4. Statement of the fire missions to the gun commander.
 - a. Target 17, Fragmentation fuse, sight 60, Elevation 30-05, Gun Deflection +1-20, sheaf 0-15, 12 rounds, 2 round volley, the remainder at 6 sec intervals.
 - b. Barrage Fire "Berioza", sight 100, Elevation 29-28, gun deflection 0-50, sheaf of fire 0-12.
5. Verification of the Gun Commander's notes and preparation of the weapon for firing.
6. Execution of fire missions on targets 17 and 32.

7. Mission statement to Gun Commander for the displacement of the weapon to grove "Maliutka".

III. Displacement of the Gun and Deployment from the March. (1130-1300)

1. Departure of Fire Position. (Position 4)
2. The passage through contaminated terrain, in the presence of trenches. (Position 5)
3. The conduct of special individual problems, (Position 6)
4. The deployment of the weapon from the march for direct fire mission against tanks. (Position 7)

IV. Review of Training and Return to the Barracks.

1. Review of training.
2. Return to the barracks utilizing convoy direction signals.
3. Putting the weapon and prime mover in order.

FOOTNOTES

1. Y. Plotnikov, The Battle of Stalingrad (Moscow: Novosti Press Agency Publishing House, 1972), p. 13.
2. G. Kamensky, "Raspredelenie Obiazannostei Na KNP" (Distribution of Duties in the Command Observation Point (COP)), Voennyi Vestnik, No. 12 (1972), pp. 69-71.
3. Ministerstvo Oborony SSSR. Poleznye Sovety Voinu, (Useful Advice to the Soldier), (Moscow: Voennoe Izdatelstvo, 1975), p. 133.
4. Ibid.
5. Ministerstvo Oborony SSSR. Artilleriisko-Strelkovyi Bloknot Ofitsera Nazemnoi Artillerii, (The Artillery-Firing Notebook for Field Artillery Officer), (Moscow: Voennoe Izdatelstvo, 1972), p. 3 and p. 56.
6. V. Ivanov and V. Nestorov, "K Voprosu O Zhivuchesti Artilleriiskikh Podrazdelenii" (The Question of the Survivability of Artillery Units (Battalion and Battery Level)), Voennyi Vestnik, No. 10 (1975), p. 82.
7. Ye. Brudno, "O Rotnom Raspisanii" (Concerning the Company Schedule), Voennyi Vestnik, No. 11 (1974), pp. 69-71.
8. A. Astashchenkov, "Uchim Ognevye Vzvody" (We Teach Firing Platoons), Voennyi Vestnik, No. 2 (1975), pp. 91-95.
9. A. Melishkevich, "Skolachivanie Rascheta" (The Bringing Together of a Crew), Voennyi Vestnik, No. 11 (1971), pp. 59-60.
10. Astashchenkov, loc. cit.
11. A. Razuvaev, Metodika Takticheskoi Podgotovki Artilleriiskikh Podrazdelenii (Methodology of Tactical Preparation of Artillery Units (Battalion and Battery)), (Moskva: Voennoe Izdatelstvo, Ministerstvo Oborony SSSR: 1972), pp. 168-170.

12. N. Chokhanelidze and A. Khomutov, "Podgotovka K Boevym Strelbam" (Preparation for Combat Firing), Voennyi Vestnik, No. 12 (1970), pp. 61-64.

13. M. Mozharov and B. Krupenin, "Kompleksnoe Zaniatie s Batareei Nochiu" (Complex Training with the Battery at Night), Voennyi Vestnik, No. 2 (1971), pp. 49-53.

14. V. Zikeev and N. Korotkov, "Vosstanovlenie Boesposobnosti Batarei" (The Establishment of the Battery's Combat Readiness), Voennyi Vestnik, No. 7 (1971), pp. 88-92.

15. B. Shubin, "Zashchita Batarei Ot Biologicheskogo Oruzhiia" (Battery Defense Against Biological Weapons), Voennyi Vestnik, No. 7 (1971), pp. 102-106.

16. N. Tikhomirov and A. Panasenko, "Zakhvat Aviabazy" (Capturing the Airbase), Voennyi Vestnik, No. 2 (1975), pp. 51-54.

17. A. Khryashchev, "Division v Avangarde" (Artillery Battalion in the Vanguard), Voennyi Vestnik, No. 3 (1972), pp. 52-56.

18. Razuvaev, op. cit., pp. 62-63.

19. Ibid., pp. 62-67, and pp. 159-167.

20. Melishkevich, op. cit., p. 60.

21. Razuvaev, op. cit., pp. 168-170.

BIBLIOGRAPHY

- Astashchenkov, A. "Uchim Ognevye Vzvody" (We Teach Firing Platoons), Voennyi Vestnik, No. 2, 1975, pp. 91-95.
- Brudno, Ye. "O Rotnom Raspisanii" (Concerning the Company Schedule), Voennyi Vestnik, No. 11, 1974, pp. 69-71.
- Chokhonelidze, N. and A. Khomutov. "Podgotovka K Boevym Strelbam" (Preparation for Combat Firing), Voennyi Vestnik, No. 12, 1970, pp. 61-64.
- Ivanov, V. and V. Nestorov. "K Voprosu O Zhivuchesti Artilleriiskikh Podrazdelenii" (To the Question of Survivability of Artillery Units (Battalion and Battery Level)), Voennyi Vestnik, No. 10, 1975, pp. 79-83.
- Kamensky, G. "Raspredelenie Obiazannostei Na KNP" (Distribution of Duties in the Command Observation Point (COP)), Voennyi Vestnik, No. 12, 1972, pp. 69-71.
- Khrushchev, A. "Division v Avangarde" (Artillery Battalion in the Vanguard), Voennyi Vestnik, No. 3, 1972, pp. 52-56.
- Melishkevich, A. "Skolachivanie Rascheta" (The Bringing Together of a Crew), Voennyi Vestnik, No. 11, 1971, pp. 59-60.
- Ministerstvo Oborony SSSR. Artilleriisko-Strelkovyi Bloknot Ofitsera Nazemnoi Artillerii (The Artillery Firing Notebook for Field Artillery Officers), Moscow: Voenizdat, 1972.
- Ministerstvo Oborony SSSR. Poleznye Sovety Voinu (Useful Advice to the Soldier), Moscow: Voennizdat, 1975.
- Mozharzov, M. and B. Krupenin, "Kompleksnoe Zaniatie c Batareei Nochiu" (Complex Training with the Battery at Night), Voennyi Vestnik, No. 2, 1971, pp. 49-53.
- Plotnikov, Ye. The Battle of Stalingrad, Moscow: Novosti Press Agency Publishing House, 1972.

- Razuvaev, A. Metodika Takticheskoi Podgotovky Artilleriiskikh Podrazdelenii (Methodology of Tactical Preparation of Artillery Units (Battalion and Battery)), Moskva: Voennoe Izdatelstvo, Ministerstvo Oborony SSSR, 1972.
- Shubin, B. "Zashchita Batarei Ot Biologicheskogo Oruzhiia (Battery Defense Against Biological Weapons), Voennyi Vestnik, No. 7, 1971, pp. 102-106.
- Tikhomirov, N. and A. Panasenko, "Zakhvat Aviabazy" (Capturing the Airbase), Voennyi Vestnik, No. 2, 1975, pp. 51-54.
- Zikeev, V. and N. Korotkov. "Vosstanovlenie Boesposobnosti Batarei" (The Establishment of the Battery's Combat Readiness), Voennyi Vestnik, No. 7, 1971, pp. 88-92.